WE CLAIM:

1. A semen extender composition comprising:

(a) sperm cell protecting amount of phospholipid;

(b) effective amount of surfactant to reduce ice crystal formation during freezing of the composition;

(c) carbohydrate; and

(d) biological buffer to provide a semen extender use solution having a pH of between about 6.9 and about 7.5, and wherein the use solution exhibits an osmolality of about 250 mOsM to about 350 mOsM.

2. A semen extender composition according to claim 1, wherein the composition comprises at least about 90 wt.% water.

3. A semen extender composition according to claim 1, wherein the phospholipid comprises a phospholipid derived from a non-animal source.

4. A semen extender composition according to claim 1, further comprising:

(a) antioxidant.

5. A semen extender composition according to claim 4, wherein the antioxidant comprises at least one of vitamin E, vitamin C, vitamin A, BHA, BHT, and derivatives thereof.

6. A semen extender composition according to claim 1, wherein the source of non-animal phospholipid comprises lecithin.

7. A semen extender composition according to claim 2, wherein the composition comprises about 0.1 wt.% to about 6 wt.% of non-animal phospholipids.

8. A semen extender composition according to claim 1, wherein the surfactant comprises at least one of an anionic surfactant, a cationic surfactant, a nonionic surfactant, an amphoteric surfactant, and a zwitterionic surfactant.

9. A semen extender composition according to claim 1, wherein the surfactant comprises at least one of sodium lauryl sulfate, sodium laureth sulfate, sorbitan esters, polyglycerol esters, glycerol esters, and mixtures thereof.

10. A semen extender composition according to claim 1, wherein the surfactant comprises polyoxyethylene sorbitan.

11. A semen extender composition according to claim 1, further comprising:

(a) freeze agent comprising at least one of glycerol and dimethylsulfoxide.

12. A semen extender composition according to claim 11, wherein the composition comprises between about 3 wt.% and about 14 wt.% of the freeze agent.

13. A semen extender composition according to claim 1, wherein the composition is substantially free of animal products.

14. A semen extender composition according to claim 1, further comprising semen.

15. A method for using a semen extender composition, the method comprising a step of:

(a) introducing ejaculate into a semen extender composition to provide a cryogenic solution, the semen extender composition comprising:

(i) sperm cell protecting amount of phospholipid;

(ii) effective amount of surfactant to reduce ice crystal formation during freezing of the composition;

(iii) carbohydrate; and

(iv) biological buffer to provide a semen extender use solution having a pH of between about 6.9 and about 7.5, and wherein the cryogenic solution exhibits an osmolality of about 250 mOsM to about 350 mOsM.

16. A method according to claim 15, further comprising a step of :

(a) freezing the cryogenic solution to provide a frozen solution.

17. A method according to claim 15, wherein the phospholipid comprises phospholipid derived from a non-animal source.

18. A method according to claim 15, further comprising a step of:

(a) thawing the frozen solution to provide a thawed solution.

19. A method according to claim 18, further comprising a step of:

(a) washing sperm cells recovered from the thawed solution.

20. A method according to claim 15, wherein the step of introducing ejaculate into a semen extender composition comprises buffering raw ejaculate to provide a buffered ejaculate, and combining buffered ejaculate with the semen extender composition.

21. A method for manufacturing a semen extender composition, the method comprising a step of:

(a) mixing semen extender composition components to provide a semen extender composition having an osmolality of about 250 mOsM to about 350 mOsM and a pH of between about 6.9 and about 7.5, the semen extender composition components comprising:

(i) sperm cell protecting amount of phospholipid;

(ii) effective amount of surfactant to reduce ice crystal formation during freezing of the composition;

(iii) carbohydrate;

(iv) water;

(v) biological buffer.

22. A method according to claim 21, wherein the semen extender components further comprise a freeze agent comprising at least one of glycerol and dimethylsulfoxide.

23. A method according to claim 21, wherein the phospholipid comprises phospholipid derived from a non-animal source.